



# Delaware Department of Transportation Performance Audit

June 2006

KPMG LLP



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June 6, 2006

Mr. R. Thomas Wagner  
Auditor of Accounts  
Office of Auditor of Accounts  
Townsend Building, Suite 1  
401 Federal Street  
Dover, DE 19901

Dear Mr. Wagner:

KPMG LLP is please to submit our final report for the Delaware Department of Transportation Performance Audit. We conducted our audit in accordance with the standards applicable to performance audits contained in *Generally Accepted Government Auditing Standards* issued by the Comptroller General of the United States.

We appreciate the opportunity to serve your Office on this important performance audit.

Very truly yours,

**KPMG LLP**



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## Executive Summary

### Background & Objectives

During the fiscal year beginning July 1, 2005, the Delaware Department of Transportation (DelDOT) revised its Capital Transportation Program (CTP) to account for estimated declines in future state cash flow available for capital spending. The impact of this was to reduce the number of capital projects that can be constructed over the next six year period. DelDOT's financial challenges and the major changes in project priorities and schedules surprised many of its stakeholders and also raised questions concerning:

- how DelDOT selects and prioritizes capital projects and develops its six year CTP;
- how DelDOT manages and controls the CTP;
- how changes in project scope and cost are tracked, monitored, and approved by DelDOT; and
- why DelDOT's expenditures for design and other consulting services have increased in recent fiscal years.

The objective of this performance audit was to assess DelDOT's performance related to the concerns noted above.

We conducted our audit in accordance with the standards applicable to performance audits contained in *Generally Accepted Government Auditing Standards* issued by the Comptroller General of the United States.

### Conclusions

Our conclusions for the above objectives are as follows:

- DelDOT's project selection and prioritization criteria for developing the CTP are evolving and not adopted and documented at this time.
- In recent fiscal years, DelDOT has not developed financially balanced CTPs. Bond Bill authorizations have exceeded state capital funds available to implement projects. At the beginning of FY 2006 DelDOT had approximately \$680.2 million in previously authorized projects, and the FY 2006 Bond Bill included an additional \$393.1 million in state authorizations. However, the State only had state capital funding of \$266.0 million to actually spend on improvements, leaving an estimated balance of \$807.3 million in authorizations at the end of FY 2006. DelDOT is working on too many authorized projects that it cannot fund based on DelDOT's estimated future revenues.

DeIDOT's processes for developing and managing the CTP are not clearly understood by many DeIDOT staff and external stakeholders and need improvement. DeIDOT is currently using multiple stand-alone accounting and financial systems and tools which complicates the financial management of the CTP.

- DeIDOT has policies and processes in place for reviewing and approving project scope and cost increases, but the policies should be reviewed and updated to reflect current and anticipated cost trends in the construction industry due to inflation and possible material and labor shortages.
- DeIDOT's expenditures for design and other consulting services increased by 121% between FY 2001 and 2005. Factors that contributed to this included DeIDOT's efforts to advance the planning and design of authorized projects in the CTP and the State's hiring freeze from approximately March 2002 to December 2003 which restricted DeIDOT's hiring of professional staff. DeIDOT is estimating a 47.2% decrease in total annual capital expenditures between FY 2006 and 2011 which is likely to impact its needs for consulting services.

### **Summary of Major Results**

This section represents a brief summary of the major findings and recommendations from our performance audit.

- During the period FY 2001 through FY 2006, Bond Bill Authorizations exceeded the state capital funds available to implement projects resulting in a backlog of authorized projects in the amount of \$807.3 million in FY 2006, that DeIDOT lacks the funding to implement. The lack of a financially balanced CTP, has resulted in DeIDOT working on more projects than it can implement based on the actual funding available for state capital improvements.

It is recommended that DeIDOT develop a fiscally balanced CTP, based on both authorizations and estimated state capital funding available, to help ensure DeIDOT is working on both authorized and funded projects. DeIDOT should also identify a set of authorized projects that would be planned and designed and ready for implementation in the event higher priority authorized and funded projects are not ready to be let for bid.

- DeIDOT's project selection and prioritization process for developing and managing the CTP are evolving and are not adopted and documented at this time. Based on our interviews and analysis, DeIDOT leadership has acknowledged that it did not use its traditional priority setting process in developing the FY 2006 CTP and is reassessing how it will evaluate and prioritize projects in the future.

It is recommended that DeIDOT develop and document the priority setting criteria and processes that it intends to use going forward.

- DeIDOT's processes for developing and managing its CTP are not clearly understood by many DeIDOT staff and external stakeholders and need improvement. Major concerns include developing the CTP based on Bond Bill Authorizations, not available funding and the shifting of authorizations among projects in order to address cost and scope increases when estimated project costs exceed authorized amounts.

It is recommended DeIDOT should develop, implement, and communicate its improved policies and processes for creating and managing a financially balanced CTP to both DeIDOT personnel and external stakeholders.

- DeIDOT is currently using multiple stand-alone accounting and financial systems and tools which complicate the financial management of the CTP. DeIDOT has recognized the need to replace and update its accounting systems, but does not have a strategic information technology plan to guide and coordinate these efforts.

DeIDOT should implement improved systems and tools to help develop and manage the CTP including a strategic IT plan and a comprehensive plan for replacing its accounting system and consolidating its multiple stand-alone systems.

- There is inadequate communications between DeIDOT management and external stakeholders regarding estimated funding, authorizations and policies and processes for developing the CTP. External stakeholders were surprised by the substantive changes in the FY 2006 CTP and were unaware DeIDOT was facing serious funding issues.

DeIDOT should develop a plan for improving communications concerning the CTP to external stakeholders such as the General Assembly, MPO's, public, etc.

- Prior to FY 2006, DeIDOT project managers primarily used authorized funding levels from the CTP to guide the cost management of their project.

It is recommended DeIDOT should develop project-specific budgets in the CTP and hold project managers accountable for managing projects to established budgets.

- DeIDOT has many initiatives underway and planned to improve its efficiency and effectiveness but lacks a centralized program management function to support the Secretary in coordinating these efforts. The department lacks a comprehensive plan and schedule for successfully completing these initiatives.

DeIDOT should implement a program management office directly reporting to the Secretary to help plan and coordinate major improvement initiatives.

- The increase in DeIDOT's consulting expenditures in recent years has caused some stakeholders to question its strategy for using design and other consultants.



Consulting fees have increased due to increasing capital authorizations, the State's hiring freeze, and market conditions affecting the ability to attract and retain qualified and experienced personnel.

It is recommended that DelDOT document and more effectively communicate its strategy for using design and other consultants to develop capital projects.

- DelDOT's total capital expenditures are estimated to decrease by 47.2% from \$501.1 million in FY 2006 to \$264.6 million in FY 2011, which is likely to impact DelDOT's needs for consulting services.

DelDOT should reassess the need for design consultants in light of funding constraints, changes in the CTP, and estimated decreases in capital expenditures.

**Auditee Comments**

Appendix 1 to this report presents the Secretary of Transportation's written response and comments on this performance audit. The Secretary's suggestion that Exhibit 1 in the audit report reflect the Base Financial Plan as presented in the Governor's Task Force Report –November 2005 has been incorporated in this report.

## **1. Introduction**

### **1.1 Background**

The Delaware Department of Transportation (DelDOT) is responsible for planning, designing, maintaining, and operating much of the State's multi-modal transportation system. The Department annually develops a six year Capital Transportation Program (CTP) which presents: (1) DelDOT's current base financial plan including revenues, debt service, operating costs, capital spending and authorizations for new capital improvements and (2) a listing and descriptions of authorized projects.

In Fiscal Year (FY) 2006, DelDOT revised its CTP to account for estimated declines in future state cash flow available for capital spending. The impact of this was to reduce the number of capital projects that can be constructed over the next six year period. DelDOT's financial challenges and the major changes in project priorities and schedules surprised many of its stakeholders and also raised questions concerning:

- how DelDOT selects and prioritizes capital projects and develops its six year CTP;
- how DelDOT manages and controls the CTP;
- how changes in project scope and cost are tracked, monitored, and approved by DelDOT; and
- why DelDOT's expenditures for design and other consulting services have increased in recent fiscal years.

### **1.2 Objective and Scope**

The objective of this performance audit was to assess DelDOT's performance related to the concerns noted above. The scope of this performance audit includes:

- Reviewing DelDOT's policies and processes for selecting projects and developing and managing its six year Capital Transportation Program
- Reviewing DelDOT's processes for estimating and tracking project costs during the project selection and design processes and for approving scope changes
- Reviewing DelDOT's policies and processes for using consultants to develop project designs.



### 1.3 Approach

We conducted our audit in accordance with the standards applicable to performance audits contained in *Generally Accepted Government Auditing Standards* issued by the Comptroller General of the United States.

To meet our objective, our analysis included:

- Conducting interviews with DelDOT leadership and managers responsible for the above functions.
- Interviewing selected external stakeholders that are active in these matters including:
  - Metropolitan Planning Organizations in Delaware
  - Federal Highway Administration
  - Selected state legislators
  - Delaware Contractor's Association
  - A representative of Delaware's Chapter of the American Council of Engineering Companies
- Assessing reports and related materials including:
  - Project selection and prioritization criteria
  - Capital Transportation Program (CTP) and other program planning documents
  - Financial forecasts and plans
  - Management reports from DelDOT's financial and program/project management systems
  - Policies and process documents describing project selection, project management, project costing, scope change approval and consultant services procurement practices
- Drafting our findings and recommendations
  - Preparing the draft
  - Reviewing the draft with management
  - Issuing the final report

## **2. Assessment of DelDOT's Policies and Procedures for Selecting Projects and Developing and Managing its Multi-Year Program.**

This section assesses DelDOT's policies and processes for selecting and evaluating capital projects and for developing and managing its six year CTP.

### **2.1 Background**

DelDOT's CTP is a six year transportation capital plan which is updated annually. As required by federal legislation, the development of the CTP is coordinated with the three year Transportation Improvement Programs developed by the two Metropolitan Planning Organizations in Delaware. The development of the CTP is also coordinated with Sussex County which does not have an MPO. As required by State law, the CTP is presented to the Council on Transportation (COT), which is a nine member citizen council that approves and adopts the CTP after holding public hearings. The first year of the CTP is DelDOT's annual capital budget request and must be approved by the General Assembly and Governor before funds can be expended on a project.

Prior to FY 2006, potential capital projects were identified through a variety of sources including but not limited to: citizen input, MPO planning studies, and DelDOT's condition assessments, planning studies, and related analyses. The proposed projects were evaluated and prioritized for inclusion in the CTP by DelDOT's Project Development Committee (PDC) using a variety of factors including safety, travel flow, community impact, environmental impact, economic impact, sustainability, and congestion mitigation. DelDOT also developed a financial plan for the six year period covered by the CTP to attempt to match project costs with estimated state, federal, and other funding likely to be available by year in the six year period. As noted above, the General Assembly and Governor approve the first year of the CTP which authorized DelDOT to expend funds on approved projects (i.e., authorizations).

In Fiscal Year 2006, DelDOT made revisions its CTP to account for estimated declines in future state cash flow available for capital spending. The impact of this was to reduce the number of capital projects that would be constructed over the next six year period. According to Department officials, the re-prioritization of projects was primarily conducted internally by DelDOT.

DelDOT's financial challenges and the major changes in CTP project priorities and schedules surprised many of its stakeholders and also raised questions concerning:

- how DelDOT selects and prioritizes capital projects and develops its six year CTP;
- how DelDOT manages and controls the CTP;

- how changes in project scopes and costs are tracked, monitored, and approved by DeIDOT; and
- why DeIDOT's expenditures for design and other consulting services have increased in recent fiscal years.

To manage its CTP DeIDOT uses a number of financial and program/project management systems and tools. The systems and related tools include but are not limited to:

- BACIS - DeIDOT's accounting system
- DFMS - the State's accounting system
- PeopleSoft financial system- Delaware Transit Corporation's financial system
- Spreadsheet systems – spreadsheets that track and report expenditure and budget activity for major capital projects, State Authorizations that control state program authorizations and Federal Obligation Plans that control federal funds
- Primavera- a program/project management system that DeIDOT uses to develop project schedules and track progress

These systems have been developed at different points in time and most are not integrated. DeIDOT has a number of initiatives underway to link some of these systems and plans to replace BACIS in the next several years with a new, more powerful financial system to support Department operations.

As background for our findings and recommendations, a brief overview of DeIDOT and State financial terminology is provided along with a summary of DeIDOT's Base Financial Plan included in the 2006 CTP.

Terminology used in the Base Financial Plan summary is described as follows:

- Revenues – DeIDOT income from tolls, fees, motor fuel taxes, interest income, miscellaneous and general fund support
- Borrowing – proposed issuance of transportation system and DTA revenue bonds
- Debt Service – payments on DTA, Senior, Junior, and State Highway and DMV G.O. bonds
- Operations – expenditures for DeIDOT, DMV and Delaware Transit Corp. Operations
- State Capital Expenditures – fiscal year (actual or estimated) transportation trust fund spending for capital projects
- Federal Capital Expenditures – fiscal year (actual or estimated) federal spending for state capital projects

- State Authorizations – legislative approval for DelDOT to proceed with the project (design and implementation) and obtain financing
- Federal Authorizations – the amount of approved fiscal year federal funds that require a state match for capital projects

Exhibit 1 summarizes DelDOT's Base Financial Plan included in the 2006 CTP. The Base Financial Plan shows that under current funding policies:

- Annual resources available (line D) to fund operations, debt service, and capital spending are estimated to decline between FY 2006 and FY 2011
- Annual debt service payments (line E) will range between \$109.8 million and \$155.4 million in the FY 2006-2011 period
- Expected borrowing (line C) is estimated to decrease from \$150.0 million in FY 2006 to \$53.3 million in FY 2011
- Annual DelDOT operations expenditures (line F) are estimated to increase from \$197.1 million in FY 2006 to \$282.1 million in FY 2011
- State cash flow (line H) is estimated to decline over the next six fiscal years
- Annual total state capital spending (line I) is estimated to decline from \$266.0 million in FY 2006 to \$106.7 million in FY 2011. These funds are used to match federal funds and for state funded capital programs and are a combination of annual revenues and borrowing, less operations and debt service
- Total capital spending, which includes federal and other funds (line K) is also estimated to decline over the FY 2006-2011 period

**Exhibit 1 - Summary of 2006 CTP Base Financial Plan**

	Actual					Estimated					
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>A</b> Beginning Cash	\$ 151,514	\$ 98,519	\$ 86,310	\$ 246,418	\$ 110,214	\$ 66,683	\$ 73,960	\$ 50,004	\$ 50,039	\$ 50,032	\$ 50,045
<b>B</b> Total Revenues	320,870	331,996	321,069	373,387	413,685	475,787	425,937	425,025	432,346	437,993	445,182
<b>C</b> Borrowing	-	83,890	239,474	-	140,251	150,000	74,000	73,900	63,800	58,500	53,300
<b>D</b> Resources Available (A + B + C)	472,384	514,405	646,853	619,805	664,150	692,470	573,897	548,929	546,185	546,525	548,527
<b>E</b> Debt Service	76,908	76,193	84,236	95,019	99,155	155,410	116,110	123,476	123,930	116,794	109,763
<b>F</b> Total Operations	146,476	145,413	163,888	190,438	205,688	197,100	211,878	227,688	244,607	262,709	282,079
<b>G</b> Total Operations & Debt (E + F)	223,384	221,606	248,124	285,457	304,843	352,510	327,988	351,164	368,537	379,503	391,842
<b>H</b> State Cash Flow (D - G)	249,000	292,799	398,729	334,349	359,307	339,960	245,909	197,765	177,648	167,022	156,685
<b>I</b> State Capital Expenditures	150,481	206,489	152,311	224,135	290,718	266,000	195,905	147,726	127,616	116,977	106,670
<b>J</b> Federal Capital Spending	139,415	118,176	136,943	94,237	118,223	235,100	140,784	146,217	148,283	153,010	157,888
<b>K</b> Total Capital Spending (I + J)	289,896	324,665	289,254	318,372	408,941	501,100	336,689	293,943	275,899	269,987	264,558
<b>L</b> Ending Cash Flow (H - I)	\$ 98,519	\$ 86,310	\$ 246,418	\$ 110,214	\$ 68,589	\$ 73,960	\$ 50,004	\$ 50,039	\$ 50,032	\$ 50,045	\$ 50,015
<b>Capital Authorization:</b>											
<b>M</b> State Authorizations	\$ 265,019	\$ 234,129	\$ 218,776	\$ 307,687	\$ 393,611	\$ 393,100	\$ 136,174	\$ 101,964	\$ 101,964	\$ 101,964	\$ 101,964
<b>N</b> Federal Authorizations	\$ 135,477	\$ 120,531	\$ 106,938	\$ 117,085	\$ 136,316	\$ 91,000	\$ 43,326	\$ 28,086	\$ 28,086	\$ 28,086	\$ 28,086
<b>O</b> Private, County, Municipal Authorizations	\$ 578	\$ 3,814	\$ 2,580	\$ 1,150	\$ 4,150	\$ 1,000	\$ -	\$ -	\$ -	\$ -	\$ -
<b>P</b> Total Authorizations (M + N + O)	\$ 401,074	\$ 358,474	\$ 328,294	\$ 425,922	\$ 534,076	\$ 485,100	\$ 179,500	\$ 130,050	\$ 130,050	\$ 130,050	\$ 130,050
<b>Source:</b> Summary of "2006 CTP Base Financial Plan" unaudited											

In June of 2005, the Governor established the "Governor's Transportation Development and Funding Option Task Force", to identify and evaluate funding options to address the State's transportation needs. The Task Force provided a report to the Governor, General Assembly, and the public in November 2005. In February 2006, the Governor established the "Transportation Financial Advisory Committee" to assist in determining a financial path forward for DelDOT. If the State of Delaware decides to increase transportation revenues in the Transportation Trust Fund, this would impact the Base Financial Plan and the number and timing of projects in the CTP.

## 2.2 Findings and Recommendations

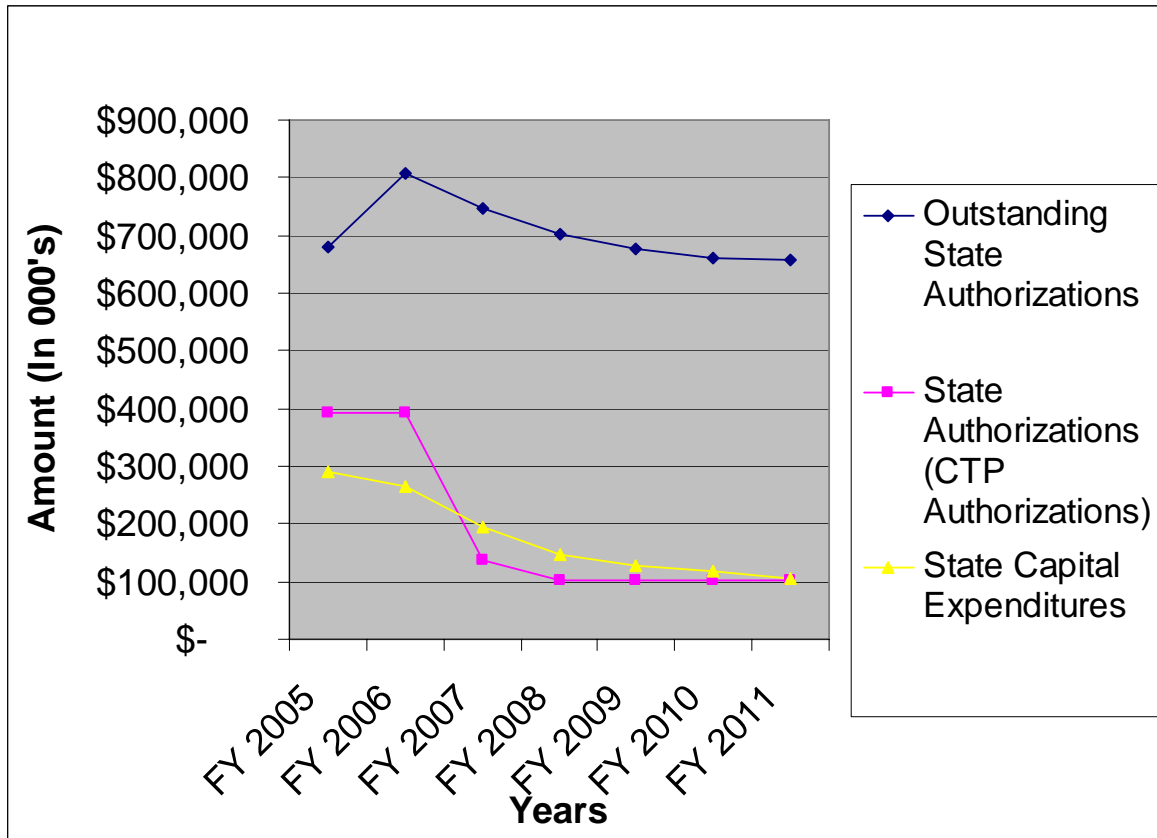
The findings and recommendations based on our analysis of DeIDOT's priority setting processes and its processes to develop and manage its CTP are presented below.

**Finding 1 - Over the period FY 2001-2006, Bond Bill authorizations exceeded the state capital funds available to implement projects, which has resulted in a large backlog of authorized projects that DeIDOT lacks funding to implement.**

In recent fiscal years, DeIDOT has not developed financially balanced CTPs. Over time, Bond Bill authorizations, which allow DeIDOT to spend state funds on proposed capital projects, have exceeded state capital funding available to implement such improvements. This situation is described below.

Exhibit 2 shows that in FY 2006 DeIDOT had approximately \$680.2 million in previously authorized projects, and the FY 2006 Bond Bill included an additional \$393.1 million in state authorizations. However, the State only had state capital funding (i.e., cash) of \$266.0 million to actually spend on improvements leaving an estimated balance of \$807.3 million in authorizations at the end of FY 2006. Exhibit 2 also shows that DeIDOT is estimated to have a balance of between \$680.2 million and \$807.3 million in state authorizations at the end of each year in the FY 2006 to 2011 period. The annual backlog of authorized but unexpended funding is between two-and-a-half and twelve times larger than the estimated state capital spending in the FY 2006-2011 period. This indicates that DeIDOT is planning and designing more projects that it can complete based on Delaware's current transportation funding policies.

## Exhibit 2 – Outstanding State Authorizations\*

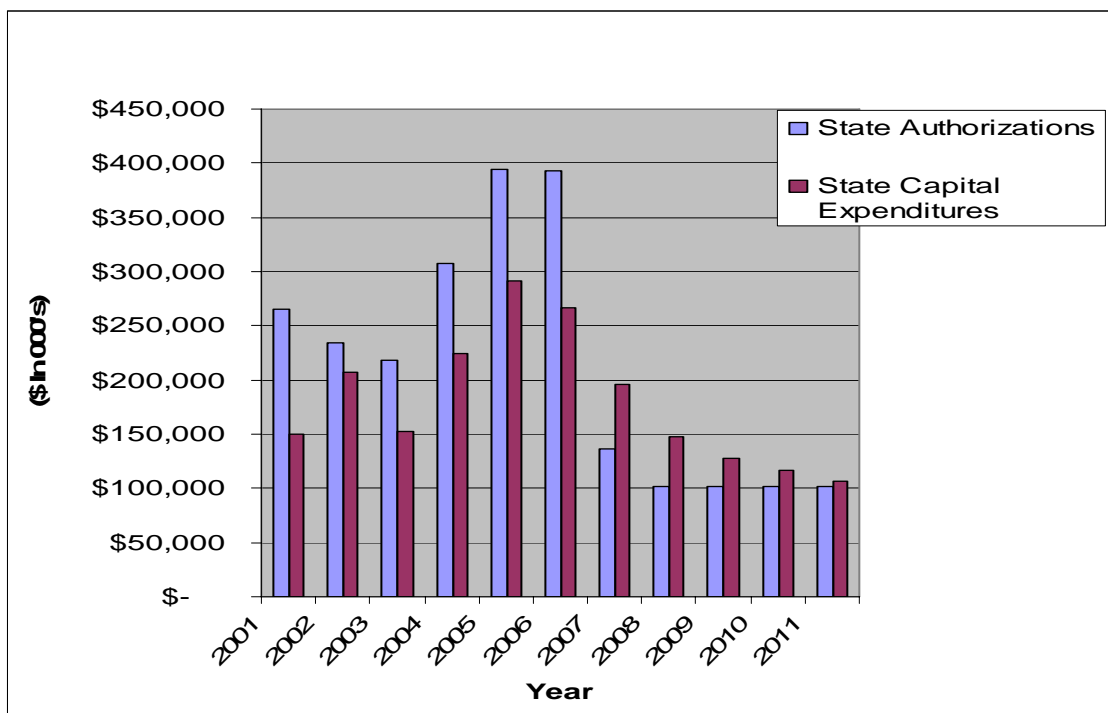


Source: DelDOT "2006 CTP Base Financial Plan" and DelDOT "Capital Project Authorizations by Category, State Share Only as of June 30, 2005" unaudited.

\*Outstanding State Authorizations can be defined as the existing plus estimated state authorized funds less estimated expenditures to date against those authorizations.

A portion of the build-up in the backlog of \$680.2 million in authorizations that existed in FY2006 occurred during the period 2001 to 2005. Exhibit 3 illustrates that cumulative Bond Bill authorizations in that period (\$1.419 billion) exceeded actual state capital spending (\$1.024 billion) by approximately \$395.0 million or 39%. Exhibit 3 matches fiscal year state authorizations to state capital spending for the period FY 2001 through FY 2011.

### Exhibit 3 – State Authorizations vs. State Capital Spending



Source: DelDOT's "2006 CTP Base Financial Plan" unaudited

The implication of the above is that DelDOT has a large backlog of authorized projects that it has been working on that it lacks state capital funding to implement. DelDOT should scale back the number of projects in the CTP to be more closely balanced with estimated state capital funding. Sound capital budgeting practices indicate that the estimated costs of capital improvements should be consistent with estimated capital funding.



***Recommendation 1 - Develop a fiscally balanced CTP, based on both authorizations and estimated state capital funding, to help ensure DelDOT is working on both authorized and funded projects in accordance with its Base Financial Plan.***

DelDOT should develop a fiscally balanced CTP to help ensure that it is working on projects that are both authorized by the Bond Bill and that can be funded by estimated state capital spending. In recent fiscal years, DelDOT has not developed a financially balanced CTP.

As discussed in other findings, DelDOT has managed its resources and CTP based on Bond Bill authorizations not estimated available state capital spending which has resulted in too many proposed projects being included in the CTP and too many projects being planned and/or designed, which is inefficient. DelDOT leadership recognizes that this has occurred and starting with the FY 2006 CTP, is working to develop a financially balanced CTP addressing both authorizations and available state capital spending.

In addition to developing a Base Financial Plan for the six year period covered by the CTP, DelDOT should incorporate a tabulation that lists all active capital projects with estimated costs by source of funding and expenditures by fiscal year. This will help demonstrate that the CTP is balanced in terms of estimated state capital spending. Exhibit 4 illustrates such a tabulation.

**Exhibit 4 – Example Capital Program Summary**

Funding Source	Authorized Amount	Previously Spent	Outstanding Authorized Balance	Estimated Expenditures						Remaining Authorized Balance	
				2006	2007	2008	2009	2010	2011		
Prior Years CTP Authorized Projects (Outstanding Authorizations)											
State	\$ 3,500	\$ 3,000	\$ 500	\$ 200	\$ 150	\$ 60	\$ 60	\$ 25	\$ 5	\$ -	
Federal	\$ 1,500	\$ 1,200	\$ 300	\$ 105	\$ 105	\$ 60	\$ 15	\$ 15	\$ -	\$ -	
Total	\$ 5,000	\$ 4,200	\$ 800	\$ 305	\$ 255	\$ 120	\$ 75	\$ 40	\$ 5	\$ -	
Current Year CTP Authorized Projects											
State	\$ 400	\$ -	\$ 400	\$ 75	\$ 100	\$ 50	\$ 50	\$ 55	\$ 70	\$ -	
Federal	\$ 75	\$ -	\$ 75	\$ -	\$ 20	\$ 25	\$ 25	\$ 5	\$ -	\$ -	
Total	\$ 475	\$ -	\$ 475	\$ 75	\$ 120	\$ 75	\$ 75	\$ 60	\$ 70	\$ -	
Total CTP Authorized Projects											
State	\$ 3,900	\$ 3,000	\$ 900	\$ 275	\$ 250	\$ 110	\$ 110	\$ 80	\$ 75	\$ -	
Federal	\$ 1,575	\$ 1,200	\$ 375	\$ 105	\$ 125	\$ 85	\$ 40	\$ 20	\$ -	\$ -	
Total	\$ 5,475	\$ 4,200	\$ 1,275	\$ 380	\$ 375	\$ 195	\$ 150	\$ 100	\$ 75	\$ -	
Total Funding Available per Base Financial Plan											
State				\$ 275	\$ 250	\$ 150	\$ 125	\$ 120	\$ 90		
Federal				\$ 105	\$ 125	\$ 85	\$ 100	\$ 100	\$ 100		
Total				\$ 380	\$ 375	\$ 235	\$ 225	\$ 220	\$ 190		
Surplus (Deficit) of Funding Available vs. Projected Expenditures											
State				\$ -	\$ -	\$ 40	\$ 15	\$ 40	\$ 15		
Federal				\$ -	\$ -	\$ -	\$ 60	\$ 80	\$ 100		
Total				\$ -	\$ -	\$ 40	\$ 75	\$ 120	\$ 115		
Contingency Projects - FY 2006											
State	\$ 100										
Federal	\$ 25										
Total	\$ 125										

Note: This table is an example of a summary of a multi-year capital program summarized by outstanding and current year authorizations and is not intended to capture all elements/data that DelDOT might include in a summary report. Each summary would be supported by project level detail, including authorization amounts, expenditures to date and estimated expenditures by year. This summary would be updated on a periodic basis as a tool for helping align authorizations with available funding. The "surplus" of funding would be available funding for authorizations of future year CTPs. Contingency projects would include additional projects, ready for bid, to replace projects authorized by the CTP that encounter unanticipated delays.

The General Assembly and DelDOT should consider using such a tabulation as the basis for project authorizations rather than continuing to follow the current authorization process which may not be adequately linked to estimated state capital spending.

**Finding 2 - DeIDOT's project selection and prioritization process for developing the CTP are evolving and are not adopted and documented at this time.**

As required by federal legislation, the development of the CTP is coordinated with the three year Transportation Improvement Programs developed by the two Metropolitan Planning Organizations (MPOs) in Delaware. Each MPO has a documented set of criteria for evaluating and prioritizing projects including factors such as: traffic volumes and congestion, safety, economic development, environmental impacts and cost. The development of the CTP is also coordinated with Sussex County which does not have an MPO. Prior to FY 2006, potential capital projects were identified through a variety of sources including but not limited to: the MPO planning process, citizen input, and DeIDOT's condition assessments, planning studies, and related analyses. The proposed projects were evaluated using a variety of factors and prioritized for inclusion in the CTP.

As required under, Title 29 Chapter 84 Section 8419 of the Delaware Code the CTP is presented to the Council on Transportation (COT), which is a nine member citizen council that approves and adopts the CTP after holding public hearings. The first year of the CTP is DeIDOT's annual capital budget request and must be approved by the General Assembly and Governor before funds are expended on a project.

In Fiscal Year 2006, DeIDOT revised its CTP to account for estimated declines in future state funds for capital spending. The impact of this was to reduce the number of capital projects that would be constructed over the next six year period. According to Department officials, the re-prioritization of projects was primarily conducted internally by DeIDOT by evaluating previously authorized projects relative to state capital spending estimated to be available during the FY 2006-2011 period.

Typically, state DOTs use documented criteria for evaluating and prioritizing capital projects. In the past, DeIDOT has used documented criteria for these processes. Based on our interviews and analysis, DeIDOT leadership acknowledged that it did not use its traditional priority setting process in developing the FY 2006 CTP. DeIDOT also acknowledged that it is reassessing how it will evaluate and prioritize projects in the future and that it has not finalized or documented what criteria and processes will be used in the future.

***Recommendation 2 - Develop and document the priority setting criteria and processes that DeIDOT will use going forward.***

DeIDOT should finalize, adopt, and document the project selection and priority setting processes and criteria that it will be using in the future for developing its CTPs. This effort should indicate how DeIDOT will coordinate and work with the MPOs, Sussex County, and the COT to prioritize projects. As noted in Finding 5 and Recommendation 5, DeIDOT leadership should to proactively communicate its new criteria and processes both internally

within DelDOT as well as to the many stakeholders actively involved and interested in how limited transportation funds will be spent and the anticipated benefits of the investments.

**Finding 3 - DelDOT's processes for developing and managing its CTP are not clearly understood by many DelDOT staff and external stakeholders and need improvement.**

Our analysis revealed that DelDOT's processes for developing and managing its CTP are not clearly understood by many DelDOT staff and external stakeholders. Major problems that need to be addressed include:

- DelDOT has historically developed and managed its CTP process based on Bond Bill authorizations not on available state capital spending. This has led to over-programming the number of projects that can actually be funded and implemented.
- It appears that many key stakeholders have been focused on securing authorizations for their projects and did not understand that authorized funding in the Bond Bill exceeded the estimated levels of state capital funding likely to be available to build the projects.
- Historically, DelDOT has shifted "authorizations" among authorized projects in order to address cost increases, scope changes, or other unforeseen events causing estimated project costs to exceed authorized amounts. DelDOT does not currently have a formal policy to approve and track such authorizations. In the past, DelDOT has managed projects to authorizations as opposed to approved budgets that are consistent with estimated state capital spending levels.
- DelDOT estimates project costs in current year dollars and does not adjust the cost for inflation or other contingencies to reflect the likely cost in the years when the project will actually be built. This understates project costs and also contributes to over-programming projects in the CTP.
- DelDOT does not have a policy on "contingency-programming" projects in the CTP to account for unanticipated project delays or other problems that interfere with authorized projects being let for construction when scheduled and funding is available. Such programming would identify a separate set of authorized projects that would be planned and designed and ready for implementation in the event higher priority authorized projects are not ready to be let for bid.

***Recommendation 3 - Develop and implement improved policies and processes for creating and managing a financially balanced CTP.***

DeIDOT should develop, implement and communicate its improved policies and processes for creating and managing a financially balanced CTP. DeIDOT should:

- Develop and document the policies and processes for creating and managing the CTP.
- Provide training to DeIDOT personnel and key stakeholders (e.g., General Assembly, MPOs, public, construction industry) to help ensure that new policies and processes are understood and followed.
- Manage projects to approved budget which are based on estimated state capital spending levels, not authorizations, and implement a formal policy and tracking system to approve and control borrowing of authorizations among projects.
- Include project costs in future year, not current year, dollars in the CTP as discussed in Recommendation 1. DeIDOT will need to develop inflation factors and project contingency factors to implement this recommendation. DeIDOT currently tracks unit costs from contractor bids and, if needed, should consider contracting with economic forecasting or engineering firms that prepare inflation indices by type of commodity/service.
- Develop timely and accurate decision-useful CTP management reports including budget, expenditures, and schedule information. DeIDOT should define the requirements for such reports by working directly with key user groups.
- Plan for prudent “contingency-programming” of projects to address unforeseen project delays. DeIDOT should review its recent experiences with project delays and also contact other state DOTs to identify reasonable levels of “contingency-programming.”

**Finding 4 - DeIDOT is currently using multiple stand-alone accounting and financial systems and tools which complicates the financial management of the CTP.**

To manage its CTP, DeIDOT uses a number of financial and program/project management systems and tools. The systems and related tools include:

- BACIS - DeIDOT's accounting system
- DFMS - the State's accounting system
- PeopleSoft financial system- Delaware Transit Corporation's financial system
- Spreadsheet system and tools – A series of spreadsheets used for tracking and control purposes that include:

- Checkbooks- a spreadsheet system implemented in 2005 that tracks and reports expenditures and budgets for capital projects in the CTP
- State Authorizations – a spreadsheet system that tracks changes to project authorizations
- Federal Obligation Plans – a spreadsheet to control federal funds
- Primavera - a program/project management system that DeIDOT uses to develop project schedules and track progress
- PSS – a system designed by DeIDOT to track legislator approval of community paving funds, tracks estimates for certain paving projects, and assist in developing contracts
- MAS 90 – the Transportation Trust Fund accounting system.

Exhibit 5 summarizes selected characteristics of these systems based on our discussions with and information provided by DeIDOT.

#### Exhibit 5 – DeIDOT Financial and Program Management Systems

Current DeIDOT Systems				
System	Current Function	Implementation Date	Integration	Other Information
BACIS	DeIDOT's financial accounting system.	July 1982	DFMS Interface	Planned to be integrated by FACTS before July 2007. New projects cannot be entered into BACIS FY2008. DeIDOT anticipates moving to PeopleSoft Financials either with the state or a DeIDOT specific implementation.
DFMS	The State's financial accounting system.	February 1986	No	Will be replaced in the next 2-3 years by PeopleSoft Financials. Exact Schedule not yet prepared.
PeopleSoft Financials - DTC	Delaware Transit Corporations financial accounting system	Late 1990's	Stand-alone	Will be integrated into state PeopleSoft Financials on a schedule TBD.



Current DeIDOT Systems				
System	Current Function	Implementation Date	Integration	Other Information
Checkbooks (Excel Based)	Interim budgeting solution. Provides project manager with high level budget and expenditures by project. Updated by Finance on a daily basis.	July 1, 2005	Stand-alone	Will be eliminated with the implementation of FACTS.
State Authorization (Excel Based)	Provides tracking of project authorizations.	Unknown	Stand-alone	Will be eliminated with the implementation of FACTS.
Federal Obligation Plans (Excel Based)	Controls and tracks federal funds	Unknown	Stand-alone	Will be eliminated with the implementation of FACTS.
PSS	Tracks legislative authorization for community paving projects, tracks certain project estimates and contracts.	Early 2000's	Stand-alone	Planned to interface with FACTS.
Primavera	DeIDOT's program/project management system. Used to develop project schedules and track progress.	December 2003	Stand-alone	Will continue to be used as program/project management system to develop project schedules and track progress; scheduled to be integrated with FACTS.
MAS 90	Transportation Trust Fund accounting system.	October 1996	Stand-alone	Planned to be replaced by PeopleSoft Financials.



Current DeIDOT Systems				
System	Current Function	Implementation Date	Integration	Other Information
QuickBooks	Various DeIDOT divisions are using this software as a budget and cost tracking tool. This requires duplicative data input of budgets and expenditures.	Unknown	Stand-alone	Likely will continue to be used as budget and cost tracking tool until implementation of new accounting software is proven to be reliable, timely and fulfill the needs of users.

Planned DeIDOT Systems				
System	Current Function	Implementation Date	Integration	Other Information
FACTS	FACTS is being implemented in phases. Phase 1 has been implemented. Phase 2 has been defined and implementation is expected July 2007. Future phases are under development.	On-going	Integrated on an interim basis with BACIS and DFMS. Ultimately, FACTS will be integrated with PeopleSoft Financial. A Primavera interface is planned.	Will be used as an application to retrieve schedule information from Primavera and financial information from the future accounting system of DeIDOT.
PeopleSoft Financials (a) State of Delaware	The State is currently refining scope and program requirements for procuring the new financial accounting system.	2-3 years. Schedule not yet established.	Unknown	The State's future financial accounting system.



Planned DeIDOT Systems				
System	Current Function	Implementation Date	Integration	Other Information
People Soft Financials (b) DeIDOT	Currently in the planning stage of development.	TBD	FACTS	People Soft is potentially the future accounting system of DeIDOT. DeIDOT is currently waiting on the State's implementation schedule before making a final accounting package selection.

Findings from our analysis of how these systems support the management of the CTP are as follows:

- DeIDOT has multiple, stand alone systems developed at different points in time, and, according to DeIDOT interviewees, are cumbersome to use and often do not meet user needs for timely, accurate, and decision-useful management reports on project schedule, status, budget, expenditures, etc. Many divisions have developed "shadow systems" to track project expenditures for project management purposes. This can lead to inconsistent project management, the lack of proper management and financial controls, the lack of secure project data/systems, and redundant and inefficient systems and processes.
- Based on our interviews, BACIS and DFMS do not provide useful reports for tracking expenditures and the financial management of individual projects and the overall CTP program.
- The Checkbooks system was developed as an interim tool to help DeIDOT's project manager's track and manage the expenditures on their projects and to facilitate managing projects to approved budgets. Checkbooks was completed in July 2005, and many users are still becoming familiar with the system. Additional user training is needed to encourage broader and more effective use of Checkbooks.
- DeIDOT also relies on a series of spreadsheets to control and monitor State Authorizations and Federal Obligation Plans. The State Authorizations spreadsheet helps control the legislatively authorized spending amount by projects while the Federal Obligation Plan spreadsheet helps control federal funds. The spreadsheets are maintained on shared common drive thus anyone with access to the shared common drive can access and revise data. An audit trail of changes is difficult to obtain using such spreadsheets.

- Primavera was implemented by DelDOT in December 2003 and is used to plan and track the schedule for projects in the CTP. Until recently, most but not all capital projects were included in Primavera. The Secretary of DelDOT recently mandated that all capital projects must be included in Primavera in order for the project to receive capital funding.
- DelDOT has determined that it needs to replace BACIS by July 1, 2008 because the system will no longer support the CTP project numbering system and, as noted above, because it has outdated and inadequate functionality to support users. Implementing a new, more powerful financial system to support Department operations is a priority need of the Department. However, this is a high risk initiative for several reasons:
  - DelDOT is attempting to coordinate this effort with the implementation of the State's new financial management system, the schedule of which has not been finalized.
  - Planning and successfully testing and implementing a new financial system in a large, complex department in approximately 24 months is a challenging schedule.
  - DelDOT does not have a comprehensive, detailed project plan for procuring software and integration services nor does it have its functional and technical requirements documented. Critical to the success of such projects are: a business case documenting objectives, benefits and costs of the investment; a change management program to achieve management and user support; and a comprehensive user training program. These have yet to be developed.
- DelDOT's current business and operating processes are complex and cumbersome and not universally understood within the DelDOT organization. Written procedures are generally lacking and cross training of employees has not been uniform. Possible staff turnover due to retirements or other factors will increase the risks associated with implementing a replacement system.
- DelDOT is planning an interim initiative to link some of its systems until its new financial system is operational. This initiative is called FACTS and would compile project schedule, financial, and related information from BACIS, Primavera, State Authorizations, Federal Obligation Plans, PSS, DFMS, and Checkbooks to meet the needs of DelDOT's project and financial managers.
- DelDOT has many important information technology initiatives underway but does not have a strategic information technology plan to guide and coordinate these efforts. This further increases the risk of not meeting the Department's objectives and user needs.

***Recommendation 4 - Implement improved systems and tools to help develop and manage the CTP.***

DeIDOT should take the following actions to address the above findings:

- Develop a strategic IT plan to guide information systems development and improvements.
- Secure leadership commitment to implement improved solutions along with a business case for change, a Department-wide change management program, and comprehensive user training program.
- Develop a comprehensive plan for replacing BACIS by July 1, 2008. This plan should address the functional, technical, change management, training, and schedule risks that the Department is facing in meeting this schedule. The plan should focus on DeIDOT's consolidating its multiple financial systems and, if functionally and technically feasible, implementing a single integrated DeIDOT financial system.
- Document, review and reengineer financial management policies and processes to determine reporting and information requirements to guide the consolidation/implementation of a new financial system.
- Provide additional user training for interim solutions like "Checkbooks."
- Integrate Primavera, the Department's program/project management system, with its financial system and over time consider using Primavera's financial planning/tracking and resource estimating functionality for managing the CTP.

**Finding 5 - There is inadequate communications between DeIDOT management and external stakeholders regarding estimated funding, authorizations and policies and processes for developing the CTP.**

Many of DeIDOT's stakeholders were surprised by the substantive changes in the FY 2006 CTP. They indicated they were not aware that DeIDOT was facing serious financial problems, were not informed that DeIDOT was planning to make major changes to the CTP, and are unclear concerning how DeIDOT will be working with them and how CTP priorities will be set going forward.

Communications between DeIDOT leadership and its stakeholders need improvement to enhance the credibility of DeIDOT's processes and the CTP and to make sure that stakeholders understand DeIDOT's evolving and new policies, processes, priority setting criteria, and systems.

***Recommendation 5 - Develop a plan for improving communications concerning the CTP to external stakeholders such as the General Assembly, MPO's, public, etc.***

DeIDOT should develop a plan to communicate its new and evolving CTP-related policies, processes, prioritization criteria, terminology, and systems to its stakeholders including the General Assembly, COT, MPOs, County governments, and other groups that are interested in the CTP. The plan should: identify stakeholders to be contacted, identify important CTP topics to be addressed, and include a schedule and the likely DeIDOT lead for the contact. An effort such as this is needed to strengthen lines of communications, encourage feedback from stakeholders, and build both an understanding of and credibility in DeIDOT policies and processes.

**Finding 6 – Prior to FY 2006, DeIDOT project managers primarily used authorized funding levels from the CTP to guide the cost management of their projects.**

As noted in Finding 3, DeIDOT did not establish budgets (based on estimated funding available) for projects in the CTP until FY 2006. Until that time, project managers primarily used authorized funding levels from the CTP to guide the cost management of their projects. According to our interviews, if a project's costs were estimated to exceed its authorizations, a project manager had to submit the project for Chief Engineer and PDC review and approval and often requested the Division of Finance to increase its authorization by "borrowing authorizations" from other authorized projects. Project managers were not held accountable for managing their projects to budgets and evaluated on that basis.

***Recommendation 6 - Develop project-specific budgets in the CTP and hold project managers accountable for managing projects to established budgets.***

The recent focus on managing projects to approved budget represents a fundamental change in DeIDOT project management practices. Given the capital funding limitations that DeIDOT is facing over the next six years, it is imperative that all projects in the CTP have approved budgets and that project managers be held accountable to deliver project designs within such budgets.

This will require additional training on Department policies and project management practices, improved project management systems and reports, and proactive monitoring for compliance and continuous improvement of its practices. Department performance evaluation practices pertaining to project managers should also be updated to emphasize the importance of managing projects to approved budgets.

**Finding 7 - DelDOT has many initiatives underway and planned to improve its efficiency and effectiveness but lacks a centralized program management function to support the Secretary in coordinating these efforts.**

DelDOT leadership is working to address many fundamental and complex challenges facing the Department. These include but are not limited to: addressing funding limitations to plan, design, construct, operate and maintain the State's transportation system; revising how projects are prioritized and included in the CTP; revising and strengthening project management practices; designing, implementing and providing training for improved and new financial and program management systems; replacing DelDOT's financial management system; improving communications and working relationships with its many stakeholders; and recruiting, training, and retaining a high quality workforce. The initiatives are even more significant when DTC and DMV operations and challenges are taken into account.

Many of these initiatives are complex, inter-related, expensive, and time-sensitive. While Department leadership recognizes these challenges and is working to address many of them, it does not have a comprehensive plan and schedule for successfully completing these initiatives. It also lacks a centralized program management function to support the Secretary in planning, monitoring, coordinating, and completing these initiatives.

***Recommendation 7 - Implement a program management office directly reporting to the Secretary to help plan and coordinate major improvement initiatives.***

The Department should implement a program management office directly reporting the Secretary to help plan, monitor, and coordinate the many initiatives listed above. This office should include at least two or three staff, including an experienced manager with program management experience, to support the Secretary. This office should help develop a comprehensive plan for the Department's major improvement initiatives, should monitor and report on the status of the initiatives on a regular basis, and identify problems and issues that potentially threaten the on-time and on-budget completion of the improvement initiatives.

### **3. Assessment of DeIDOT's Processes for Estimating and Tracking Project Costs During the Project Selection and Design Processes and for Approving Scope Changes.**

This section assesses DeIDOT's cost estimating and project cost tracking procedures during the project selection and design phases. This section also assesses policies for managing cost and scope increases during the design cycle.

#### **3.1 Background**

DeIDOT's cost estimating and project cost tracking during the project selection and design process takes place in the Transportation Solutions Division. Transportation Solutions is currently responsible for concept cost estimates of all new project ideas. In the past, the Planning Division was responsible for concept cost estimates. The concept cost estimates are typically the project cost estimates that are authorized on the CTP.

Cost estimation guidance is provided to DeIDOT engineers in the Design Guidance Memorandum (DGM). The DGM outlines costing practices for road and bridge projects. In addition, the DGM provides approval and review levels for cost increases, scope changes and estimates at all phases of the design cycle. All project estimates are in current dollars and dated for being bid within one year of the final cost estimate.

There are four phases in the design cycle including:

- concept
- preliminary
- semi-final
- final

In the past, DeIDOT engineers were not held responsible for managing project estimates to an approved budget, only to the total authorizations amount. DeIDOT management is now holding engineers responsible for managing costs to a project budget developed during the concept phase and authorized in the CTP. Engineers are responsible for managing project costs using Checkbooks, which provides budget and expenditure information for projects. Checkbooks is updated by the Finance Division on a daily basis and users receive updated reports weekly.

Engineers are also responsible for monitoring scope changes and cost increases that may occur at any time during the design. All major scope changes and cost increases must be approved by the Project Development Committee (PDC). The PDC meets monthly and approves all material project scope and cost changes with a majority vote. The PDC is chaired by the Chief Engineer and includes the Secretary and the department heads of

Planning, Transportation Solutions, Finance, Maintenance and Operations, Delaware Transit Corp, Public Relations, Human Resources and Technology and Support Services.

### **3.2 Findings and Recommendations:**

#### **Finding 8 – DelDOT has adopted a policy that includes two sets of cost increase thresholds for reviewing and approving project scope and cost increases.**

- **If a project cost estimate increases by more than ten percent or \$250,000 from the original CTP estimate during any stage in the design phase, the increase must be reviewed and approved by the PDC.**
- **If a project cost estimate increases by more than ten percent or \$100,000 from the original CTP estimate during any phase of design, the increase must be reviewed and approved by the Director of Transportation Solutions (Chief Engineer).**

Based on discussions with management, the first threshold described was established in August 2005 by the PDC due to funding restrictions in the 2006 CTP. This threshold has not been formally approved and incorporated into documented DelDOT policies and procedures. This policy replaces the previous threshold of twenty percent or \$500,000 established in the July 29, 2002 DGM and approved by the Director of Transportation Solutions. Requests for scope and budget changes exceeding the above thresholds are reviewed and approved by a majority vote of the PDC through email or at monthly meetings. PDC monthly meeting notes document the reason for the increase, review and approval by the PDC, and the identified funding source.

The cost estimate increase review by the Chief Engineer was implemented in July 2002 in the DGM. According to the DGM, semi-final and final cost estimates greater than ten percent or \$100,000 of the CTP estimate must be approved by the Director of Transportation Solutions. The Capital Transportation Project Cost Estimate template includes lines for approving cost estimates by an Assistant Director of Transportation Solutions and instruction to copy all estimates to the Chief Engineer.

#### ***Recommendation 8 - Annually evaluate the effectiveness of DelDOT's practices for monitoring and approving project scope and cost increases.***

Due to current funding restrictions facing DelDOT, management should annually review its practices for evaluating and approving increased project costs and scope changes to help ensure they are meeting DelDOT's objectives.

**Finding 9 – The DGM was effective dated July 29, 2002 with no evidence of review since that time.**

The Chief Engineer provided us with the DGM that was issued and effective July 29, 2002 by the Division of Transportation Solutions. To date there have been no review or revisions to the DGM. According to discussions with the Chief Engineer, additional guidance and historical cost information is available on the department's intranet for further reference by engineers in the division.

***Recommendation 9 - Consider reviewing and updating the DGM on an annual basis to help ensure estimate review limits and design guidance is in accordance with the objectives and expectations of DelDOT.***

Due to significant changes in the construction industry in recent years, it is recommended DelDOT review and make revisions to their Design Guidance Memorandum on an annual basis to help ensure engineers are receiving the most up to date and relevant industry information.

For example: The DGM Competition Adjustment Factor states, "Winter bidding is very competitive for contractors, since most contractors are bidding the job for the next construction season. During the past four years bids came in during winter months on average 9% lower than the rest of the year." This is based on historical information from years prior to 2002, not current industry data. The DGM should reflect the most recent and accurate industry data.



#### **4. Assessment of DelDOT's Policies and Processes for Using Consultants to Develop Project Designs**

This section assesses DelDOT's use of design consultants to develop capital projects for the CTP.

##### **4.1 Background**

DelDOT uses consultants for planning, design, inspection, right of way analysis, maintenance and operations, and miscellaneous professional services. When a project requires these services for which DelDOT lacks resources or skills, a consulting firm is used to complete the service.

DelDOT uses consulting firms to develop project designs in accordance with the multi-year CTP. Design consulting firms are typically used on larger, complex capital projects when DelDOT lacks resources to complete the design. DelDOT currently maintains eight design consultants on competitively procured open-ended contracts for design services. When DelDOT recognizes the need for a design consultant, they request a proposal from 2-3 of the consultants currently on an open-ended contract. The design is awarded to the consultant based on qualifications, experience and their proposal for the selected project. The open-ended contracts contain DelDOT's standard terms and conditions and fee structures for consultant costs.

##### **4.2 Findings and Recommendations**

###### **Finding 10 – The increase in DelDOT's consultant expenditures in recent years has caused some stakeholders to question its strategy for using design and other consultants.**

As shown in Exhibit 6, consulting fees have increased from \$38.9 million to \$85.9 million from FY 2001 to FY 2005, an increase of 121%. While design consulting expenditures grew by 99.6% in this five year period, non-design consulting services for planning, environmental assessments, construction inspections and other services increased 139%. During this time period, capital expenditures have only increased 41.1% from \$289.9 million to \$408.9 million.

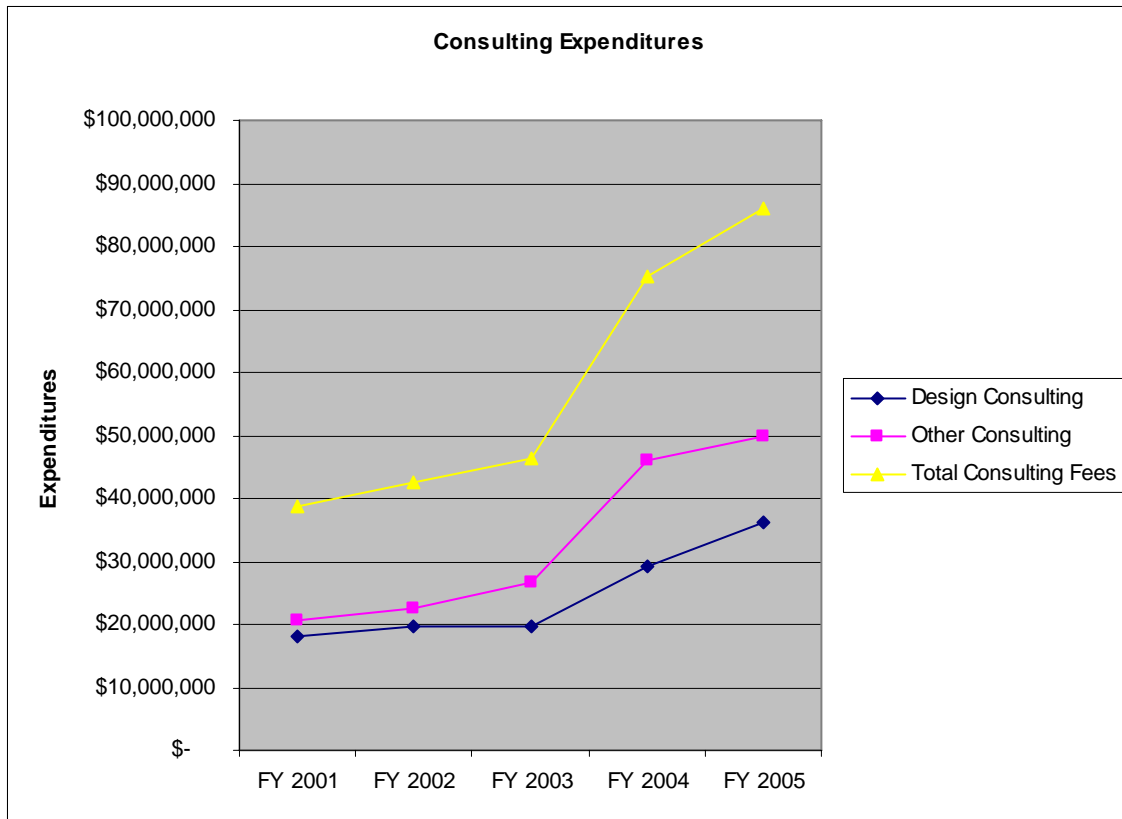
**Exhibit 6 – Comparison of Consulting Fees, Capital Expenditures and Capital Authorizations**

	Actual Expenditures				
	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005
<b>Design Consulting</b>	\$ 18,091,178	\$ 19,793,583	\$ 19,837,544	\$ 29,305,153	\$ 36,116,295
<b>Other Consulting</b>	\$ 20,785,962	\$ 22,592,294	\$ 26,660,956	\$ 46,054,253	\$ 49,815,213
<b>Total Consulting Fees</b>	\$ 38,877,140	\$ 42,385,878	\$ 46,498,500	\$ 75,359,407	\$ 85,931,509
<b>Total Capital Expenditures</b>	\$ 289,896,000	\$ 324,665,000	\$ 289,254,000	\$ 318,372,000	\$ 408,941,000
<b>Total Capital Authorizations</b>	\$ 401,074,000	\$ 358,474,000	\$ 328,294,000	\$ 425,922,000	\$ 534,076,000
<b>Design Consulting as:</b>					
% of Total Consulting	46.5%	46.7%	42.7%	38.9%	42.0%
% of Capital Expenditures	6.2%	6.1%	6.9%	9.2%	8.8%
% of Capital Authorizations	4.5%	5.5%	6.0%	6.9%	6.8%
% increase from prior year	n/a	9.4%	0.2%	47.7%	23.2%
<b>Other Consulting as:</b>					
% of Total Consulting	53.5%	53.3%	57.3%	61.1%	58.0%
% of Capital Expenditures	7.2%	7.0%	9.2%	14.5%	12.2%
% of Capital Authorizations	5.2%	6.3%	8.1%	10.8%	9.3%
% increase from prior year	n/a	8.7%	18.0%	72.7%	8.2%
<b>Total Consulting as:</b>					
% of Capital Expenditures	13.4%	13.1%	16.1%	23.7%	21.0%
% of Capital Authorizations	9.7%	11.8%	14.2%	17.7%	16.1%
% increase from prior year	n/a	9.0%	9.7%	62.1%	14.0%
<b>Total Capital Expenditures as:</b>					
% of Capital Authorizations	72.3%	90.6%	88.1%	74.7%	76.6%
% increase from prior year	n/a	12.0%	-10.9%	10.1%	28.4%
<b>Total Capital Authorizations as:</b>					
% increase from prior year	n/a	-10.6%	-8.4%	29.7%	25.4%
<b>% Change over 5 year period ending FY 2005:</b>					
Design Consulting					99.6%
Other Consulting					139.7%
Total Consulting					121.0%
Total Capital Expenditures					41.1%
Total Capital Authorizations					33.2%

Source: Consulting fees were provided by the DelDOT on the yearly "Detailed Project Expenditures Report by Function." KPMG classified design consulting fees by the 1003 and 1004 function codes per discussions with DelDOT. The remaining expenditures were classified as Other Consulting Fees. Capital Expenditures and Capital Authorizations were based on DelDOT's "2006 CTP Base Financial Plan."

The increases in consulting fees were 62.1% and 14.0% in FY 2004 and FY 2005, respectively, as shown in Exhibit 7. These increases coincided with 29.7% and 25.4% increases in total capital authorizations for FY 2004 and FY 2005, respectively.

## Exhibit 7 – Consulting Expenditures (FY 2001 – FY 2005)



Source: DeIDOT's "Detailed Project Expenditures Report by Function"

In this period, DeIDOT was attempting to advance many authorized projects through the design process to address growing needs, which contributed to the growth in design and other consulting expenditures.

An additional factor contributing to the increased consulting expenditures was the State's hiring freeze from approximately March 2002 through December 2003. DeIDOT was prohibited from hiring engineers who could help perform in-house design for a number of DeIDOT projects. As a result, DeIDOT contracted with consultants for completion of planning and design functions.

According to department officials and stakeholders, construction industry market conditions during this time period affected the ability of DeIDOT to attract and retain qualified and experienced civil engineers. Staffing shortages in the construction industry drove the demand and salaries for civil engineers and related skills higher than in previous years. This resulted in difficulties for DeIDOT to retain qualified engineers and estimators



based on competition from area design and construction firms. The shortage of qualified and experienced staff caused DelDOT to use outside consulting firms for design and planning functions.

DelDOT's strategy for using consultants does not appear to have been clearly communicated from DelDOT to the General Assembly and other stakeholders.

***Recommendation 10 - Document and more effectively communicate its strategy for using design and other consultants to develop capital projects.***

DelDOT should consider advising the General Assembly of its strategy and plans to use consultants when submitting the CTP and current year budgets. This additional information should help proactively address stakeholders' questions regarding the use of consultants.

**Finding 11 – DelDOT's total capital expenditures are estimated to decrease by 49.9% from \$446.0 million in FY 2006 to \$172.6 million in FY 2011, which is likely to impact DelDOT's needs for consulting services.**

DelDOT is estimating a 47.2% and 73.2% decrease in total capital expenditures and authorizations from FY 2006 through FY 2011, respectively as shown in Exhibit 8.

**Exhibit 8 – DelDOT's Estimated Capital Expenditures and Capital Authorizations**

	<i>Estimated</i>					
	<i>FY 2006</i>	<i>FY 2007</i>	<i>FY 2008</i>	<i>FY 2009</i>	<i>FY 2010</i>	<i>FY 2011</i>
<b>Total Capital Expenditures</b>	\$ 501,100,000	\$ 336,689,000	\$ 293,943,000	\$ 275,899,000	\$ 269,987,000	\$ 264,559,000
<b>Total Capital Authorizations</b>	\$ 485,100,000	\$ 179,500,000	\$ 130,050,000	\$ 130,050,000	\$ 130,050,000	\$ 130,050,000
<b>Total Capital Expenditures as:</b>						
% of Capital Authorizations	103.3%	187.6%	226.0%	212.1%	207.6%	203.4%
% increase from prior year	9.1%	-32.8%	-12.7%	-6.1%	-2.1%	-2.0%
				<b>% Change over 7 year period ending FY 2011:</b>		
Total Capital Expenditures						-47.2%
Total Capital Authorizations						-73.2%
<b>Source: "2006 CTP Base Financial Plan"</b>						

These estimated declines may reduce DelDOT's need for design and other consulting services. Reassessing the level and type of consulting services needed is also warranted based on likely changes in the number, size, complexity, and schedule of projects to be implemented.

***Recommendation 11 - Reassess the need for design consultants in light of funding constraints, changes in the CTP, and estimated decreases in capital expenditures.***

DelDOT management should reevaluate the types and levels of consulting services it will need during FY 2006 through FY 2011. This should be reflected in its procurement plans for consulting services as well as in its internal staffing and resource allocation plans.



## Appendix I

### Department of Transportation's Response



STATE OF DELAWARE  
**DEPARTMENT OF TRANSPORTATION**  
800 BAY ROAD  
P.O. BOX 778  
DOVER, DELAWARE 19903

CARDLANN WICKS, P.E.  
SECRETARY

May 30, 2006

The Honorable R. Thomas Wagner, Jr.  
Office of Auditor of Accounts  
401 Federal Street  
Townsend Building, Suite 1  
Dover, Delaware 19901

Dear Mr. Wagner:

This letter is provided as a response to the Performance Audit report provided by your agency on May 16, 2006. On behalf of the entire department, we appreciate your thorough review of policies and procedures relating to the states capital transportation program. We offer the following:

Recommendation 1 – As outlined in the report provided by the Governors Task Force, capital transportation project cost continue to exceed the available revenue in the Transportation Trust Fund. Operating and dept service expenses account for almost half of the trust funds expenditures. Additionally, as identified in Finding #1, authorizations exceed the available state capital funds.

Recommendations 2, 3, 5 – The Department continues to work with transportation partners, (Dover Metropolitan Planning Organization, WILMAPCO, citizens of the state and the legislature) to create and properly document a capital project prioritization process. These established and formalized practices will help to create a financially balanced long-range Capital Transportation Program that meets the needs of the entire state.

Recommendation 4 – In a continued partnership with the Office of Management and Budget and other State Agencies, DelDOT will stand in the forefront to design and implement a statewide accounting system which will provide project managers and financial personnel with the necessary tools to enhance and promote project management as well as to manage the expenditures of the Transportation Trust Fund through comprehensive accounting practices.

Recommendations 6 – It is anticipated that project scope and cost will continue to create challenges for the Department. Project specific budgets are developed which are the basis for the authorization amounts. But, given the amount of





The Honorable R. Thomas Wagner, Jr.

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public involvement expected by the various communities we work with, anticipating and defining the full project scope can be challenging. In addition, Delaware's volatile market conditions impacting real estate, materials, labor and fuel costs also create challenges for providing adequate project estimates. Unforeseen changes in scope and market factors often have impacts on a project budget that are beyond the control of the project manager. This is not due to a lack of accountability. Project managers continue to consider project management a major part of accountability. Control of scope creep, project costing and overall project management and review are of significant importance to the overall viability of the capital program.

Recommendation 7 – As stated in the finding, DelDOT works to address many complex challenges. These challenges require a coordinated effort among the divisions throughout the department. Through the guidance of the Secretary, the department will continue to work as a centralized unit to address issues impacting the department.

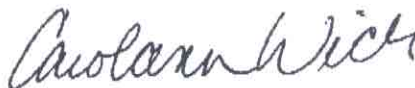
Recommendation 8 and 9 – The use of consultant services should always be evaluated against the availability of in-house resources. This review should take into account the amount of manpower resources require, and the specific skill sets needed to complete the tasks to determine how best to accomplish the Capital Transportation Program (CTP). Having a clear understanding of this process is recognized as an important internal and external issue.

In an effort to ensure that the financial information provided in the report is accurate and comprehensive, we suggest that Exhibit 1 represent the Base Financial Plan as presented in the Governors Task Force Report – November 2005.

Overall, we confirm, to the best of our knowledge and belief, with the representations presented through this audit process.

Thank you for your continued support of our efforts.

Sincerely,



Carolann Wicks  
Secretary

CW:KE:jif

cc: John DiFenzo, KPMG  
Kathy S. English, Director Finance